

## CLAIMS

We claim:

- 1           1.       A gas lighter comprising:  
2           a reservoir having an upper wall;  
3           a well, the well passing through the upper wall; and  
4           a gas-dispensing device having at least one tubular element arranged in the well,  
5           wherein the tubular element has at least one snap-fitting member designed to  
6 cooperate with a retaining element secured to the upper wall when the tubular element is  
7 assembled with the reservoir.
- 1           2.       A lighter according to claim 1, wherein the tubular element comprises two  
2 snap-fitting members for engaging the retaining element to snap-fit the tubular element in  
3 the upper wall of the reservoir in the well.
- 1           3.       A lighter according to claim 1, wherein the upper wall is formed integral  
2 with the reservoir.
- 1           4.       A lighter according to claim 1, wherein the upper wall of the reservoir, the  
2 well and the tubular element are all in the shape of a cylinder that is circularly symmetrical.
- 1           5.       A lighter according to claim 1, wherein the tubular element and the upper  
2 wall of the reservoir in the well have relatively smooth walls.
- 1           6.       A lighter according to claim 1, further comprising an annular seal arranged  
2 between the wall and the tubular element.
- 1           7.       A lighter according to claim 6, wherein the annular seal is arranged between  
2 a radially external rim formed on the tubular element and a radially internal rim formed on  
3 the wall.

1           8.       A lighter according to claim 7, wherein the tubular element has a first axial  
2 distance ( $H_1$ ), extending between the radially external rim and a point of contact where the  
3 snap-fitting member engages the retaining element, and the upper wall has a second axial  
4 distance ( $H_2$ ) between the radially internal rim and the point of contact, the first and second  
5 distances ( $H_1$ ,  $H_2$ ) being chosen to exert a pre-determined pressure on the annular seal.

1           9.       A lighter according to claim 1, wherein the retaining element is formed on a  
2 lower portion of an interior face of the upper wall.

1           10.      A lighter according to claim 1, wherein the snap-fitting member is arranged  
2 in a lower part of the tubular element.

1           11.      A lighter according to claim 10, wherein the snap-fitting member comprises  
2 a tab having a nib, the nib being directed radially outwards and having a transverse face, the  
3 tab being elastic in a radial direction.

1           12.      A lighter according to claim 1, wherein the tubular element further  
2 comprises a regulating device.

1           13.      A lighter according to claim 12, wherein the regulating device is a  
2 microporous membrane.

1           14.      A lighter according to claim 13, wherein the tubular element further  
2 comprises a metal inner tube having a lowered end for receiving the microporous  
3 membrane.

1           15.      A lighter according to claim 1, wherein the tubular element has an upper end  
2 comprising a radially internal rim defining an opening through which there passes an outlet  
3 duct of a valve, the valve being moveable along an axis of the tubular element, wherein a  
4 compression spring is arranged between the radially internal rim and the valve.

1           16.      A lighter according to claim 1, wherein the reservoir is formed of a material  
2 selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene  
3 styrenes.

1           17.      A lighter according to claim 1, wherein the tubular element is made of semi-  
2 crystalline polymer.

1           18.     A gas lighter comprising:

2                 a reservoir containing a fuel, the reservoir having an upper wall,

3                 a well, the well passing through the upper wall; and

4                 a gas-dispensing device having at least one tubular element including at least one  
5 snap-fitting member;

6                 wherein the upper wall includes a retaining element for engaging the snap-fitting  
7 member.

1           19.     A lighter according to claim 18, wherein the tubular element comprises two  
2 snap-fitting members for engaging the retaining element to snap-fit the tubular element in  
3 the upper wall of the reservoir in the well.

1           20.     A lighter according to claim 18, wherein the upper wall is formed integral  
2 with the reservoir.

1           21.     A lighter according to claim 18, wherein the upper wall of the reservoir, the  
2 well and the tubular element are all in the shape of a cylinder that is circularly symmetrical.

1           22.     A lighter according to claim 18, wherein the tubular element and the upper  
2 wall of the reservoir in the well have relatively smooth walls.

1           23.     A lighter according to claim 18, further comprising an annular seal arranged  
2 between the upper wall and the tubular element.

1           24.     A lighter according to claim 23, wherein the annular seal is arranged  
2 between a radially external rim formed on the tubular element and a radially internal rim  
3 formed on the upper wall.

1           25.     A lighter according to claim 24, wherein the tubular element has a first axial  
2 distance ( $H_1$ ), extending between the radially external rim and a point of contact where the  
3 snap-fitting member engages the retaining element, and the wall has a second axial distance  
4 ( $H_2$ ) between the radially internal rim and the point of contact, the first and second distances  
5 ( $H_1$ ,  $H_2$ ) being chosen to exert a pre-determined pressure on the annular seal.

1           26.     A lighter according to claim 18, wherein the retaining element is formed on a  
2 lower portion of an interior face of the upper wall.

1           27.     A lighter according to claim 18, wherein the snap-fitting member is arranged  
2     in a lower part of the tubular element.

1           28.     A lighter according to claim 27, wherein the snap-fitting member comprises  
2     a tab having a nib, the nib being directed radially outwards and having a transverse face, the  
3     tab being elastic in a radial direction.

1           29.     A lighter according to claim 18, wherein the tubular element further  
2     comprises a regulating device.

1           30.     A lighter according to claim 29, wherein the regulating device is a  
2     microporous membrane.

1           31.     A lighter according to claim 30, wherein the tubular element further  
2     comprises a metal inner tube having a lowered end for receiving the microporous  
3     membrane.

1           32.     A lighter according to claim 18, wherein the tubular element has an upper  
2     end comprising a radially internal rim defining an opening through which there passes an  
3     outlet duct of a valve, the valve being moveable along an axis of the tubular element,  
4     wherein a compression spring is arranged between the radially internal rim and the valve.

1           33.     A lighter according to claim 18, wherein the reservoir is formed of a material  
2     selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene  
3     styrenes.

1           34.     A lighter according to claim 18, wherein the tubular element is made of  
2     semi-crystalline polymer.

1           35.     A method of manufacturing a gas lighter having a reservoir including an  
2     upper wall having a retaining element and a well which passes through the upper wall, the  
3     method comprising:

4           providing a gas dispensing device within the well, the gas dispensing device  
5     including at least one tubular element having at least one snap-fitting member, wherein the  
6     step of providing a gas dispensing device within the well comprises:

7           placing the tubular element into the well until the snap-fitting member engages the  
8     retaining element thereby securing the dispensing device into the well.

1           36.     The method of claim 35, wherein the tubular element comprises two snap-  
2 fitting members for engaging the retaining element.

1           37.     The method of claim 35, wherein the upper wall is formed integral with the  
2 reservoir.

1           38.     The method of claim 35, wherein the upper wall of the reservoir, the well  
2 and the tubular element are all in the shape of a cylinder that is circularly symmetrical.

1           39.     The method of claim 35, wherein the tubular element and the upper wall of  
2 the reservoir in the well have relatively smooth walls.

1           40.     The method of claim 35, further comprising providing an annular seal  
2 between the upper wall and the tubular element.

1           41.     The method of claim 40, wherein the annular seal is arranged between a  
2 radially external rim formed on the tubular element and a radially internal rim formed on  
3 the upper wall.

1           42.     The method of claim 41, wherein the tubular element has a first axial  
2 distance ( $H_1$ ), extending between the radially external rim and a point of contact where the  
3 snap-fitting member engages the retaining element, and the wall has a second axial distance  
4 ( $H_2$ ) between the radially internal rim and the point of contact, the first and second distances  
5 ( $H_1$ ,  $H_2$ ) being chosen to exert a pre-determined pressure on the annular seal.

1           43.     The method of claim 35, wherein the retaining element is formed on a lower  
2 portion of an interior face of the upper wall.

1           44.     The method of claim 35, wherein the snap-fitting member is arranged in a  
2 lower part of the tubular element.

1           45.     The method of claim 44, wherein the snap-fitting member comprises a tab  
2 having a nib, the nib being directed radially outwards and having a transverse face, the tab  
3 being elastic in a radial direction.

1           46.     The method of claim 35, wherein the tubular element further comprises a  
2 regulating device.

1           47.     The method of claim 46, wherein the regulating device is a microporous  
2 membrane.

1           48.     The method of claim 47, wherein the tubular element further comprises a  
2 metal inner tube having a lowered end for receiving the microporous membrane.

1           49.     The method of claim 35, wherein the tubular element has an upper end  
2 comprising a radially internal rim defining an opening through which there passes an outlet  
3 duct of a valve, the valve being moveable along an axis of the tubular element, wherein a  
4 compression spring is arranged between the radially internal rim and the valve.

1           50.     The method of claim 35, wherein the reservoir is formed of a material  
2 selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene  
3 styrenes.

1           51.     The method of claim 35, wherein the tubular element is made of semi-  
2 crystalline polymer.